

Family planning: a rare conversation in pediatrics in the setting of a rarer adolescent diagnosis

Courtney Kelly, MD PGY1
Rebecca Rothstein, DO, FAAP

PAST MEDICAL & SURGICAL HISTORY

- 2014: PCP noticed right-sided scrotal swelling during patient's annual well child visit
- Scrotal US & CT abdomen/pelvis were performed & scrotal AVM suspected
- Patient was referred to OSH urology where scrotal AVM diagnosis was confirmed
- Patient underwent Onyx sclerotherapy with embolization
- 2015: Patient experienced persistent scrotal hemorrhages that did not resolve with repeat embolization, necessitating hemiscrotectomy, L sided orchiopexy, complicated scrotoplasty, and 12 cm AVM resection
- Patient continued to have scrotal hemorrhages that resolved with pressure despite extensive surgical intervention
- August 2020: Transfer of care to PMCH, patient presented to the PMCH ED for recurrent hemorrhage requiring transarterial and transvenous embolization in the left hemiscrotum with Interventional Radiology



**Peyton Manning
Children's Hospital**

Ascension St. Vincent

PRESENTATION ON ADMISSION

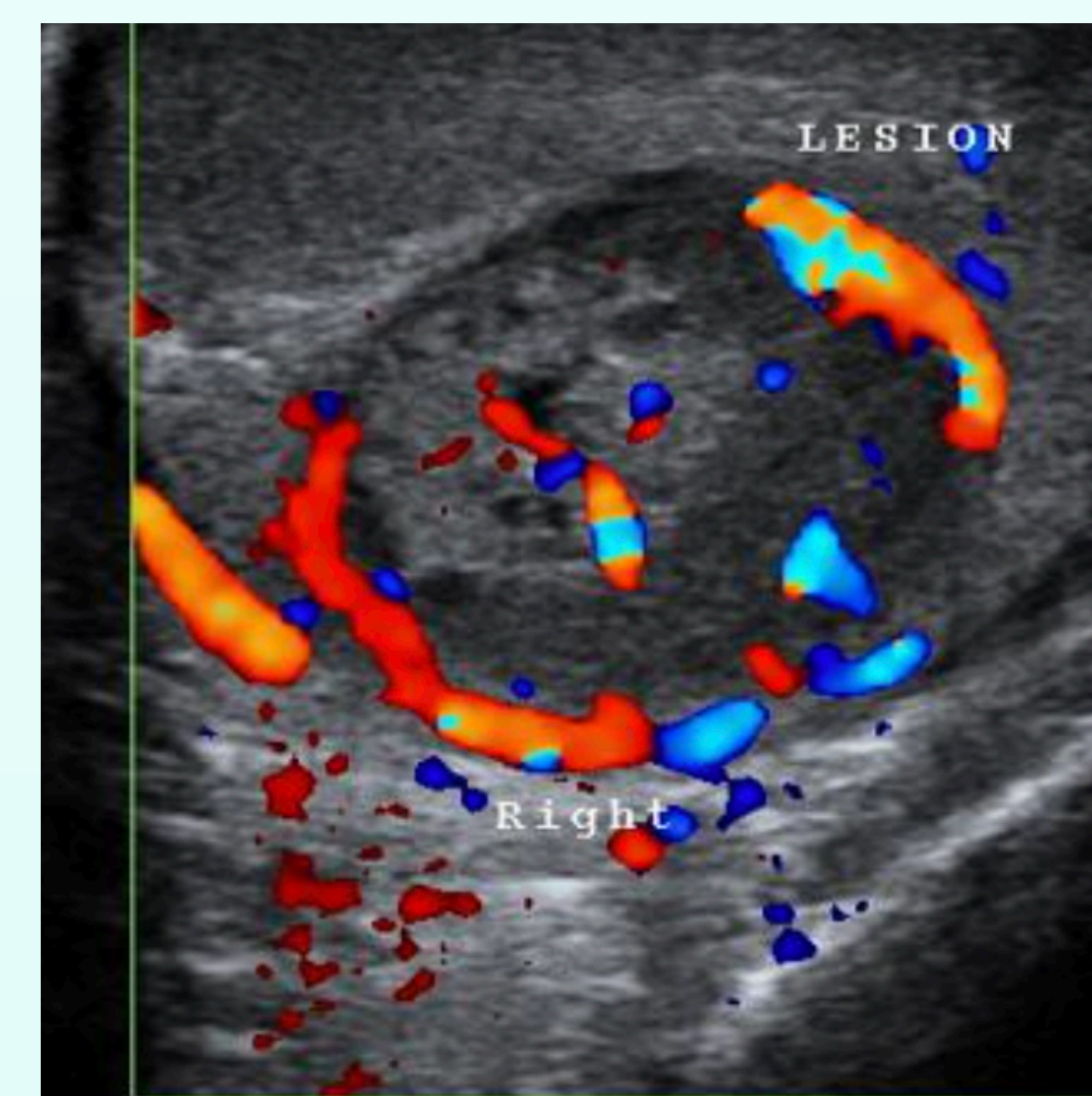
- 16-year-old male with history of recurrent scrotal hemorrhages secondary to known scrotal AVM as previously described
- Acute onset of scrotal hemorrhage while at school on 10/13/2020 while playing the clarinet in band class
- Patient reports healing eschar on his scrotum, where he noticed he was bleeding after bearing down
- Patient experienced one syncopal episode while hemorrhaging, at which point EMS was called
- BP on EMS arrival noted to be 74/48, he was given 1x NS bolus with stabilization of BP to 125/82 on arrival
- Hemorrhage resolved several minutes following arrival to the PMCH ED
- CBC obtained and remarkable for a hemoglobin of 7.5 and Hct of 26.7
- Patient received 1 unit of pRBCs

IMAGING & INTERVENTION

- Testicular and scrotal duplex Doppler ultrasound demonstrated a persistent left sided AVM measuring 0.7 cm in diameter
- 10/14/2020: Patient underwent angiogram with transarterial and transvenous embolization and sclerotherapy of large AVM involving the left hemiscrotum with Interventional Radiology
- Patient returned on 10/26/2020 for scrotal wound closure with plastic surgery

DISCUSSION

- Most common locations of arteriovenous malformations (AVMs): intracranial, extracranial head and neck, extremity, and truncal, and visceral sites. (1)
- Congenital scrotal AVM is a rare condition (1)
- Scrotal AVMs are an extremely rare diagnosis, with only a handful reported to date, and even fewer in the pediatric population
- Most common presentations of a scrotal AVM: swelling or infiltrating mass, pain, bleeding, or ulceration.
- Infertility has been the primary presentation of scrotal AVMs in a few cases (1)
- Scrotal vascular lesions such as varicoceles and hemangiomas have been shown to cause an elevation in scrotal temperature, which may adversely affect spermatogenesis (2)



*Image is a reflection of the patient's studies as their own was not available at the time of presentation

DISCUSSION CONTINUED

- As previously cited in the literature, there is increased awareness that scrotal AVMs recurrent hemorrhages may result in increased scrotal temperature and subsequent oligospermia (2)
- It is our hope to emphasize the importance of discussing family planning in this population early in order to preserve fertility options down the road
- As with our case, a multidisciplinary approach is common and often includes Urology, Interventional Radiology as well as plastic surgery.
- It is important to discuss fertility preservation with each subspecialty and decide ownership of subsequent sperm collection
- Counseling the patient on family planning and offering semen analysis to determine degree of azoospermia should be recognized as routine preoperative management in order to maximize future fertility options

REFERENCES

1. Mohammad, A., Sahyouni, W., Almerree, T., & Alsaïd, B. (2020). Angioembolization of scrotal arteriovenous malformations: A case report and literature review. *Case Reports in Vascular Medicine*, 2020, 1-8.
2. Monoski, M. A., Gonzalez, R. R., Thomas, A. J., & Goldstein, M. (2006). Arteriovenous malformation OF scrotum causing Virtual azoospermia. *Urology*, 68(1).
3. Jha, P. (n.d.). Intratesticular arteriovenous Malformation: RADIOLOGY CASE. Retrieved February 23, 2021, from <https://radiopaedia.org/cases/intratesticular-arteriovenous-malformation?lang=us>

CONTACT

Courtney.Kelly@ascension.org